Artificial Neural Networks

3rd Assginment - Shahid Beheshti University - Master's Program

November 30, 2022

I hope all is well with you. This is the third series of homework for the Artificial Neural Networks course. The deadline for this assignment is **due date December 11, Sunday**. All students are expected to submit their homework on time. Feel free to **ask questions regarding the exercises in the course Telegram group** if needed. As part of your assignment, you are required to write a detailed report.

Exercise 1

The EfficientNet architecture needs to be described in detail and thoroughly explain all its concepts and innovations.

Exercise 2

The ResNext and the Inception-ResNet should be compared and discussed in terms of their advantages and disadvantages.

Exercise 3

In this part, you will use a ResNet architecture to solve an imagery classification problem. You have to work with the Intel Image Classification, which consists of 6 classes with 25k samples.

- You are allowed to utilize a pre-trained model and apply the transfer learning technique.

- Also, you are free to use other alternatives to ResNet architectures, such as Inception-ResNet, ResNext, Wide Residual Networks (WRNs), and DenseNet.

- An extra mark will be awarded to the student who achieves the highest accuracy on the test data in the class (+20 pts).